

Thinking and acting sustainably

Profile of a 21st Century
Professional



Introduction



About the workshop





About us

- Institution of Environmental Sciences
- Professional Practice for Sustainable Development (PP4SD)





Purposes

- Improving awareness of the principles that underpin SD
- Identifying drivers for change
- Improving awareness of the benefits of SD
- Exploring ideas on to integrate SD principles into professional practice
- Applying systems thinking
- Developing personal action plans



•
•
•

1 - Exploration

- Exploring ideas about sustainability and its relevance to lifestyles and business.
- Identifying some key principles of sustainability.
- Making a case for sustainability

•
•
•

2 - Thinking and communicating

- Case studies
- Joined up thinking methodology
- Practice

•
•
•

3 - Preparing for action

- Planning for a future/Backcasting
- Change
- Action Planning



Introductory activity



What is sustainable development
all about?





Locally Grown
By
Thompson's





AIR POWER: In rural Wales, turbines catch electricity from the wind

Questions to ask

Natural

These are questions about the environment - energy, air, water, soil, living things and their relationships to each other. These questions are about the built as well as the 'natural' environment.

Who decides?

These are questions about power, who makes choices and decides what is to happen; who benefits and loses as a result of these decisions and at what cost.



Economic

These are questions about money, trading, aid, ownership, buying and selling.

Social

These are questions about people, their relationships, their traditions, culture and the way they live. They include questions about how, for example, gender, race, disability, class and age affect social relationships.

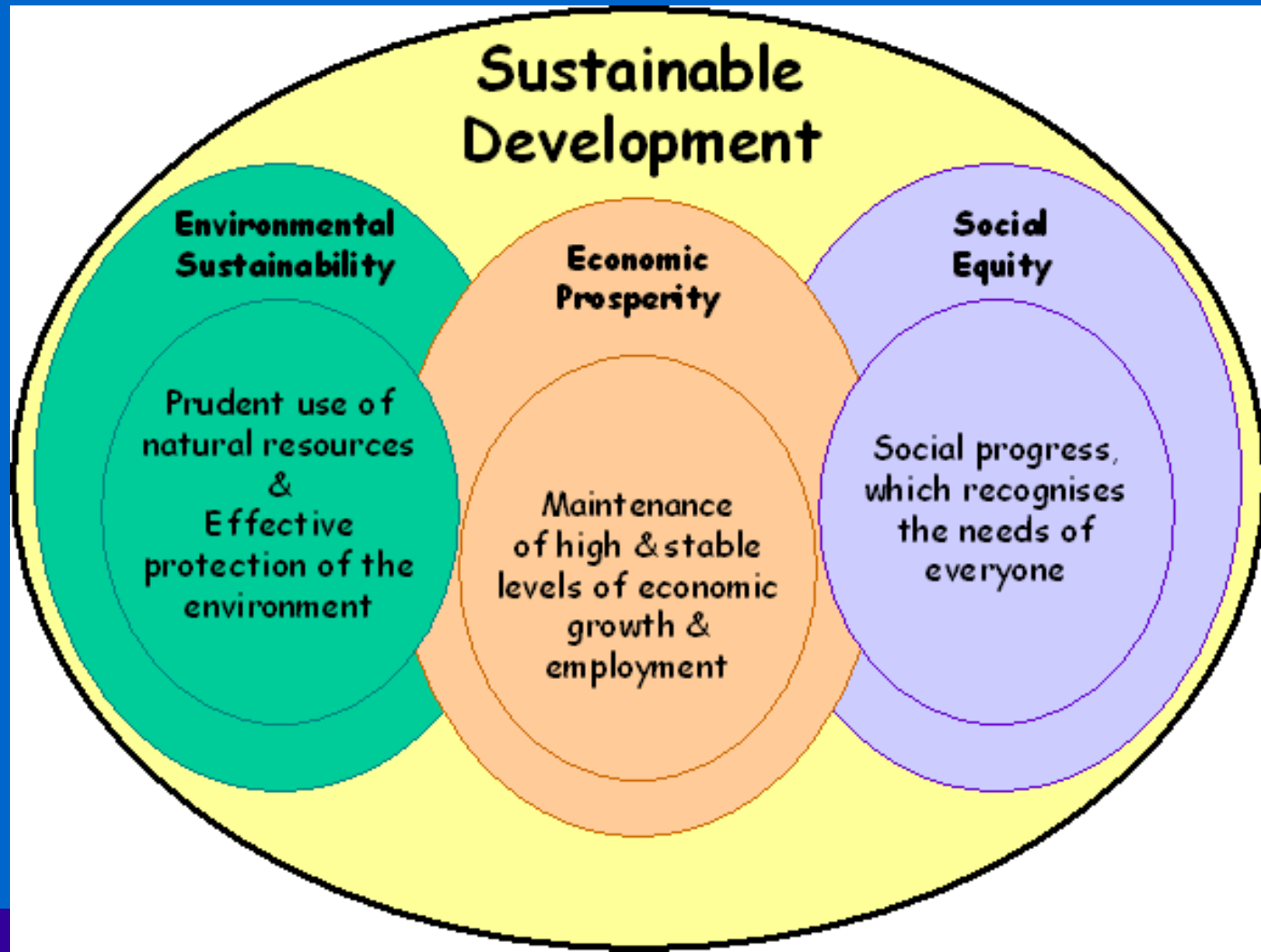


Sustainable Development

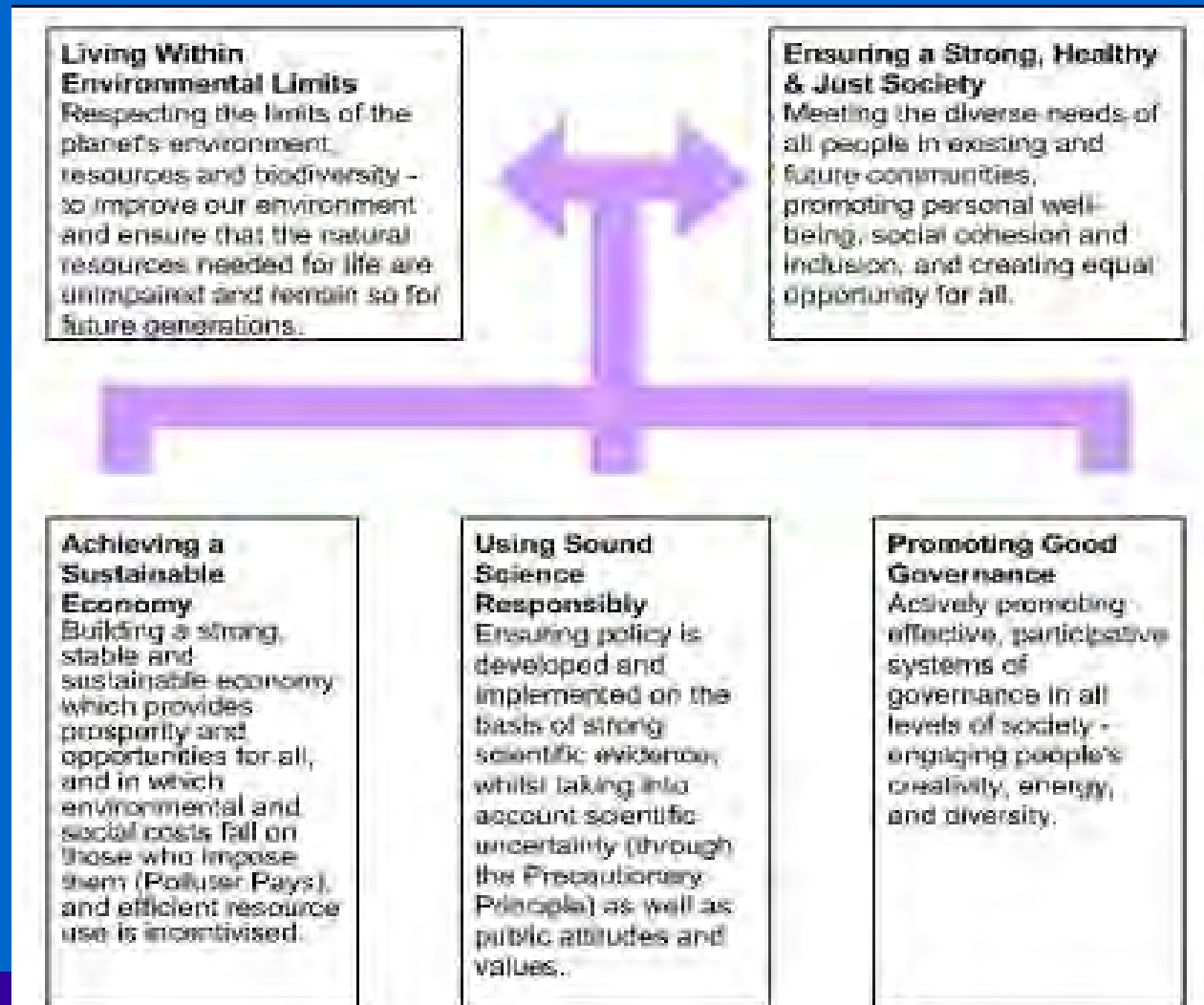
- Meets the needs of the present without compromising the ability of future generations to meet their own needs ...
- ... The concept does imply limits, not absolute limits, but ones imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activities.



Sustainable Development



Sustainable Development



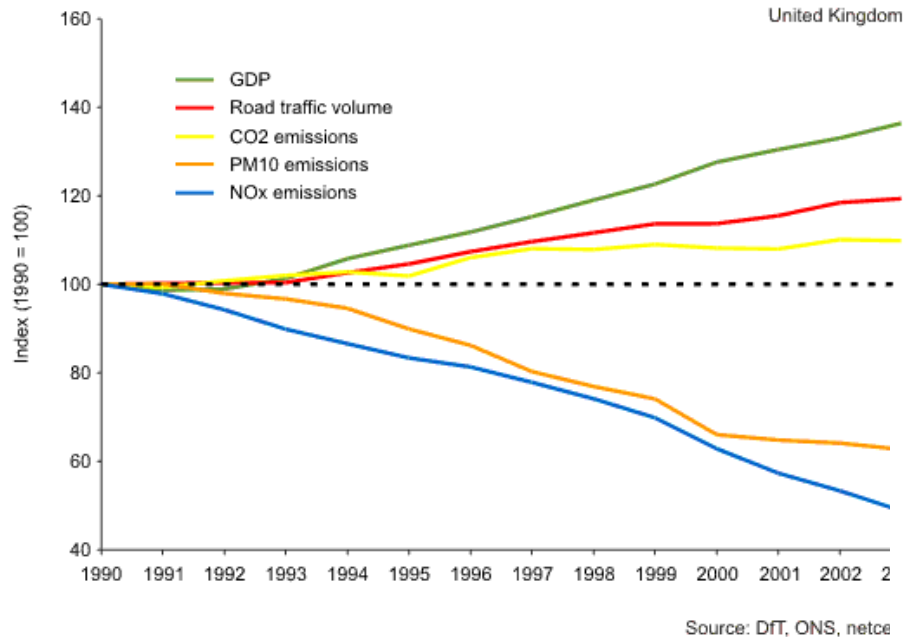
Sustainable Development

Economic

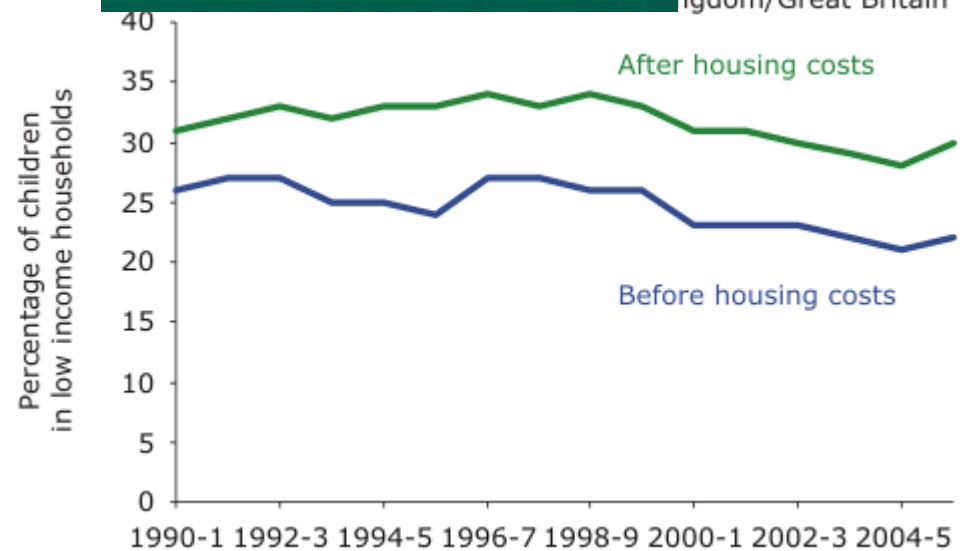
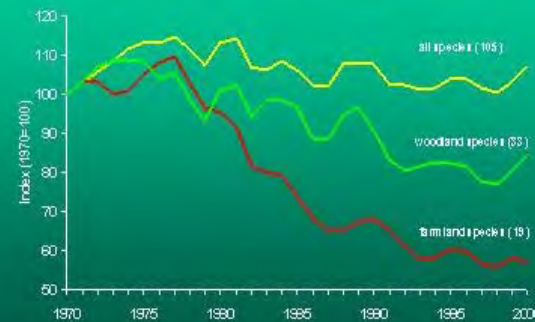
Environmental

Social

Road traffic, economic growth and environmental impacts: 1990-2003



The QoL UK Wild Bird Indicator



Sustainable Development

- **Sustainability** is a goal, a state to which we can aspire. It is not very controversial
- **Sustainable development** is the process of moving closer to sustainability. It is controversial because there is often disagreement on the best way to make progress



Drivers for Change



What are the pressures?



-
-
-

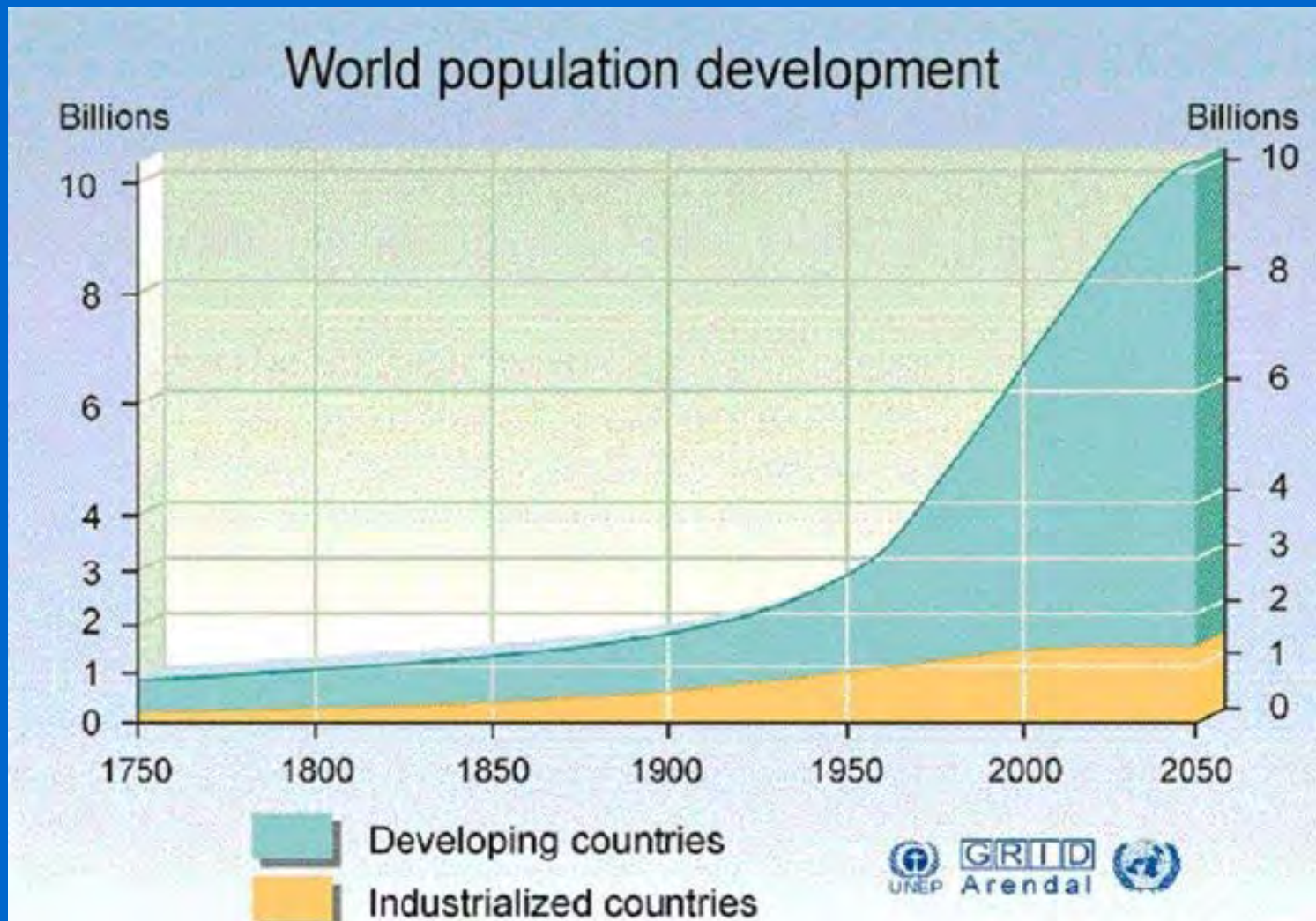
Drivers for Change: Finite Resources



All the water and air in the world. On the left, all the world's water is shown as a ball covering central Europe. On the right the entire atmosphere at sea level pressure.

Composed by Dr Adam Nieman from topographical data.

Drivers for Change - Population



Drivers for Change - Climate

The Independent

28 April 2007

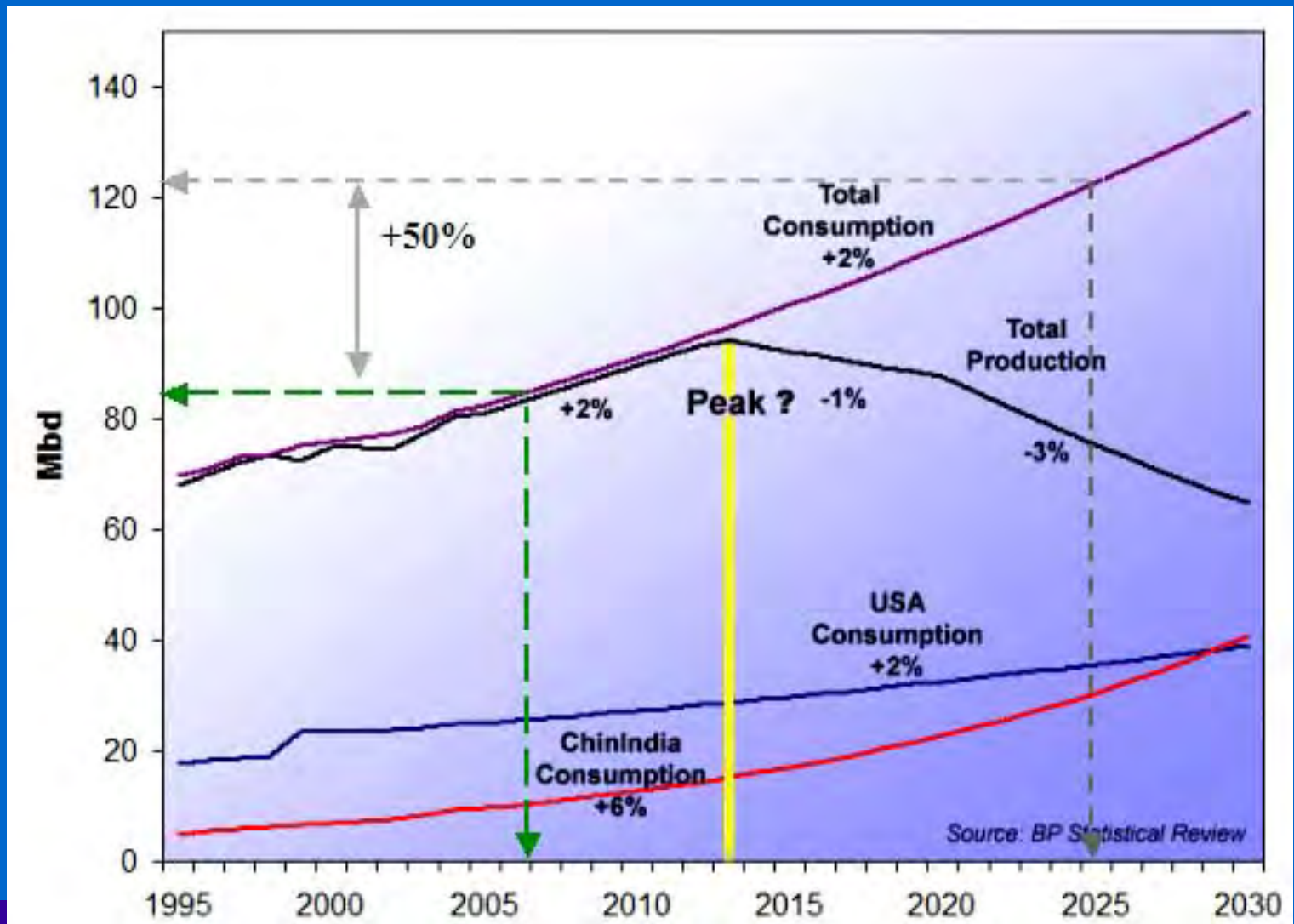
As April temperatures break all records, will this be the summer when Britain reaches

40°C

and the effects of climate change are painfully brought home?

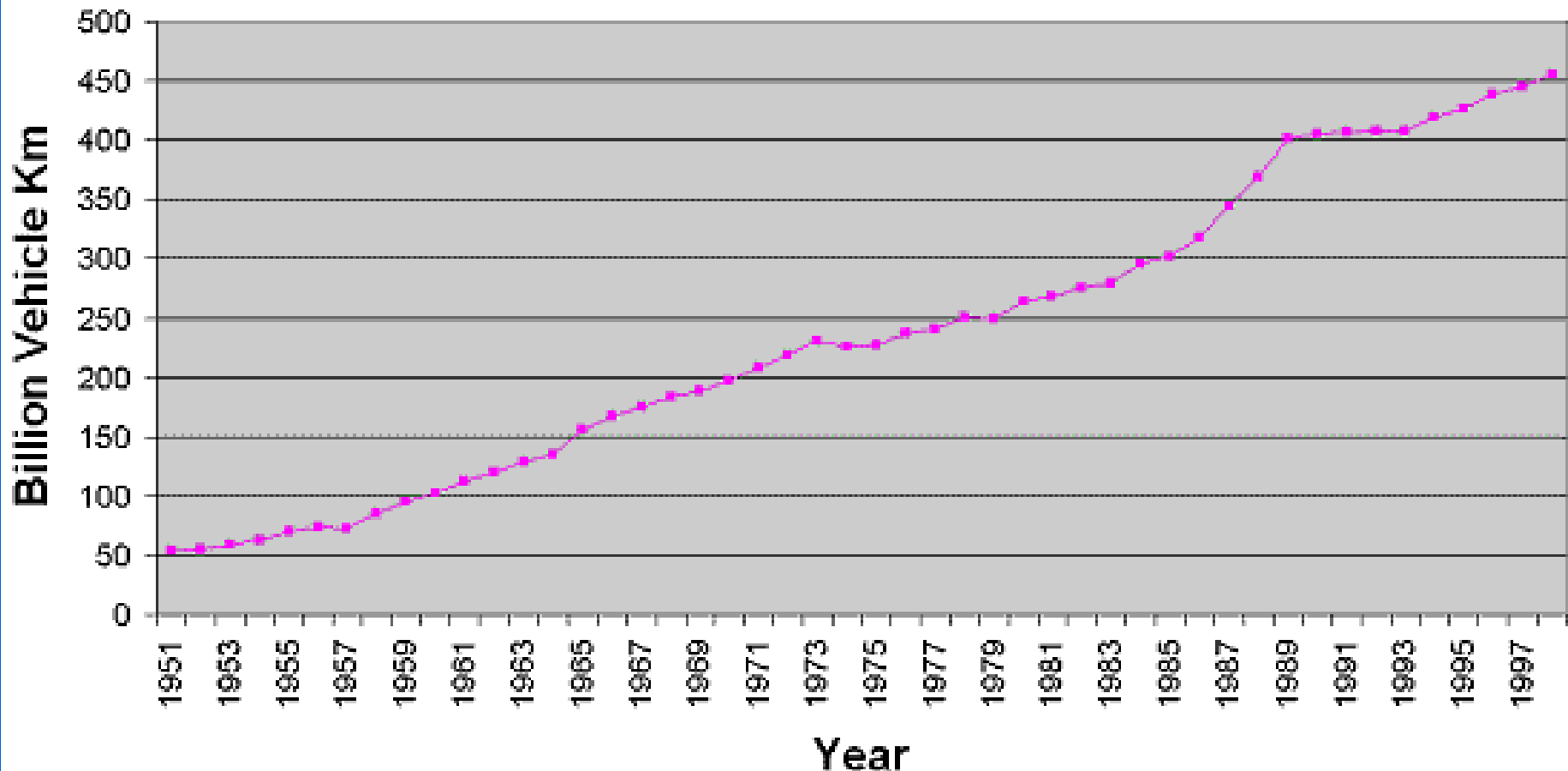
REPORTS, PAGES 2 - 4

Drivers for Change - Peak oil



Drivers for Change - Traffic

Road Traffic - Great Britain



Natural Step - system conditions

- In a sustainable society nature is not subject to systematically increasing
 - Concentrations of substances extracted from the Earth's crust.
 - Concentrations of substances produced by society.
 - Degradation by physical means,
AND in that society
 - Human needs are met world-wide.



Case Studies

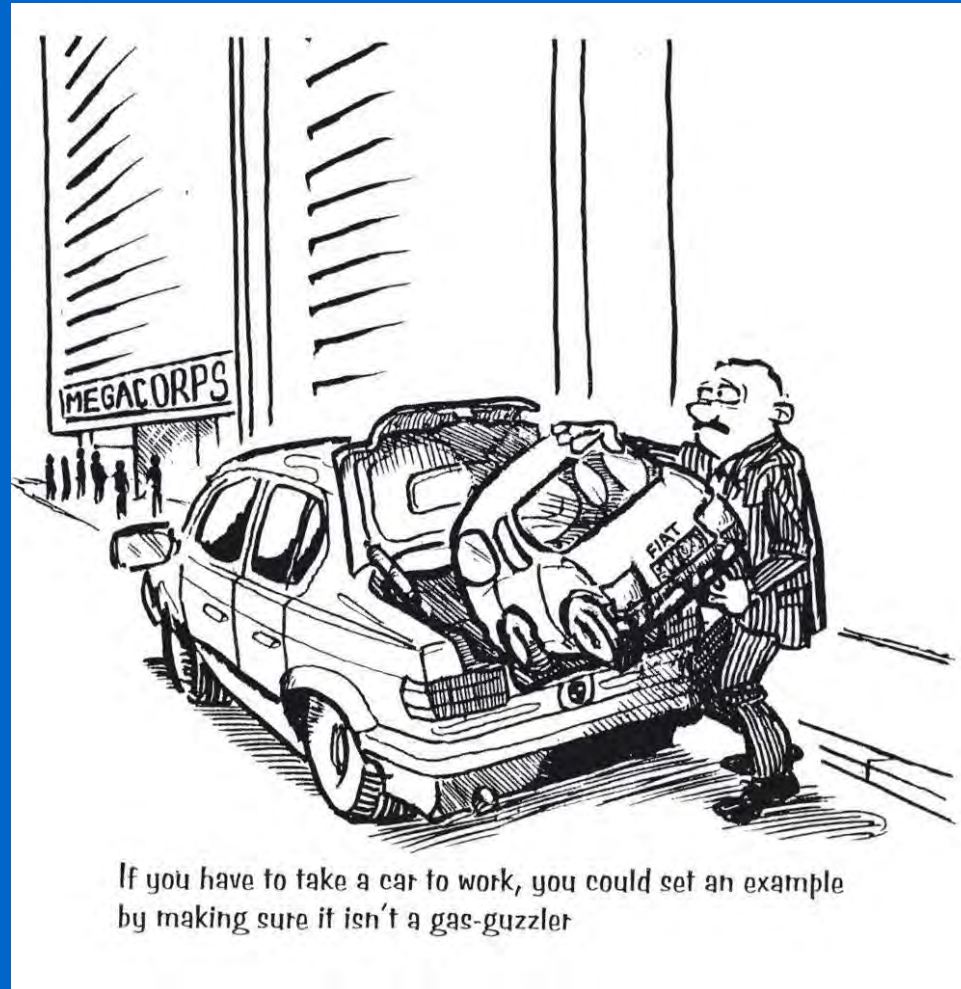


How others have approached
sustainable development



Case studies

- Read the case study and prepare to feedback on the following:
 - What is being done for sustainability?
 - Why is being done?
 - What are the most significant success factors?
 - Personal comments





Building the case for SD



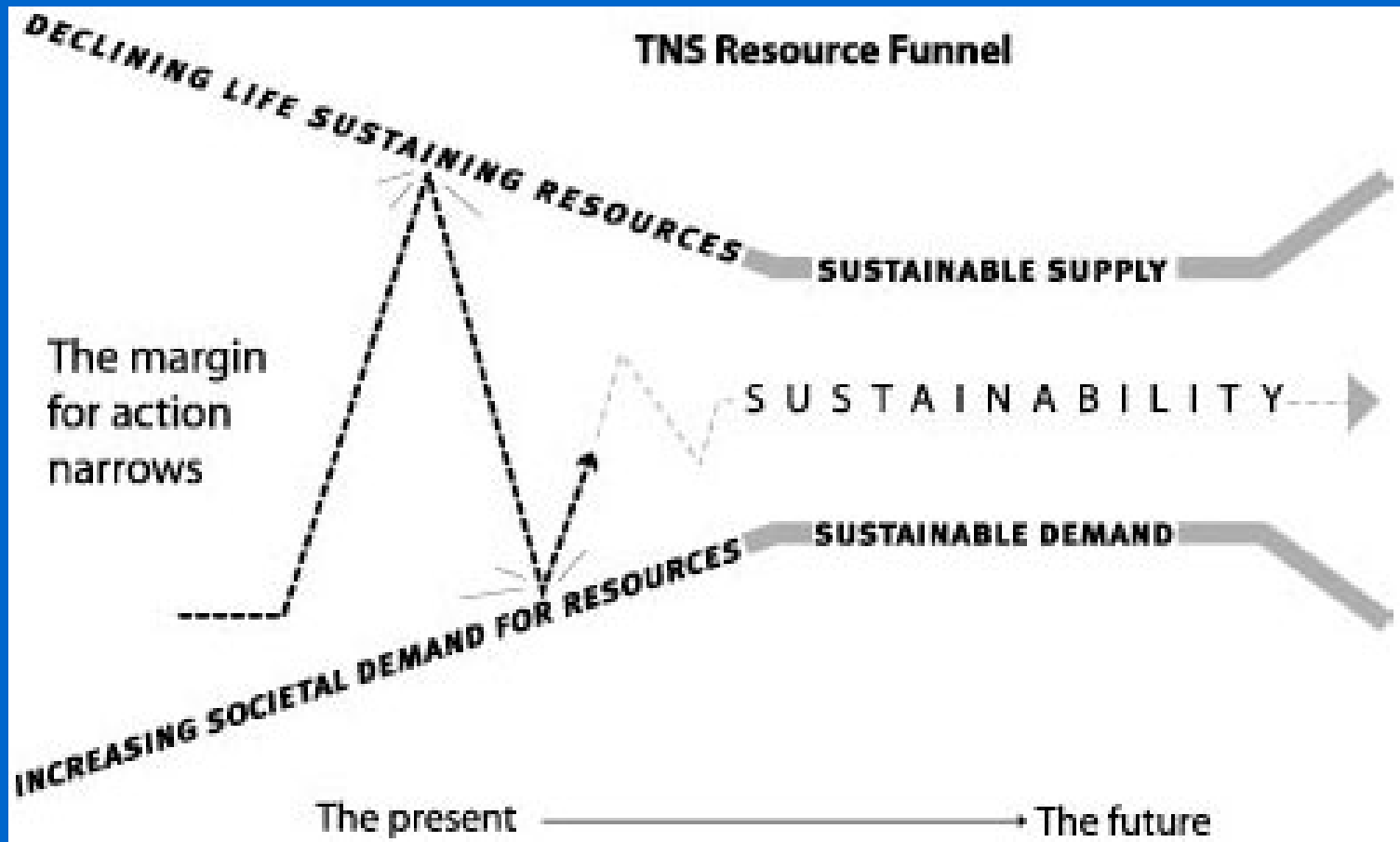
Why SD can be good for the
Earth, people and business

The economic case

- A report by economist Sir Nicholas Stern suggests that global warming could shrink the global economy by 20%.
- But taking action now would cost just 1% of global gross domestic product, the 700-page study says.



The supply and demand case



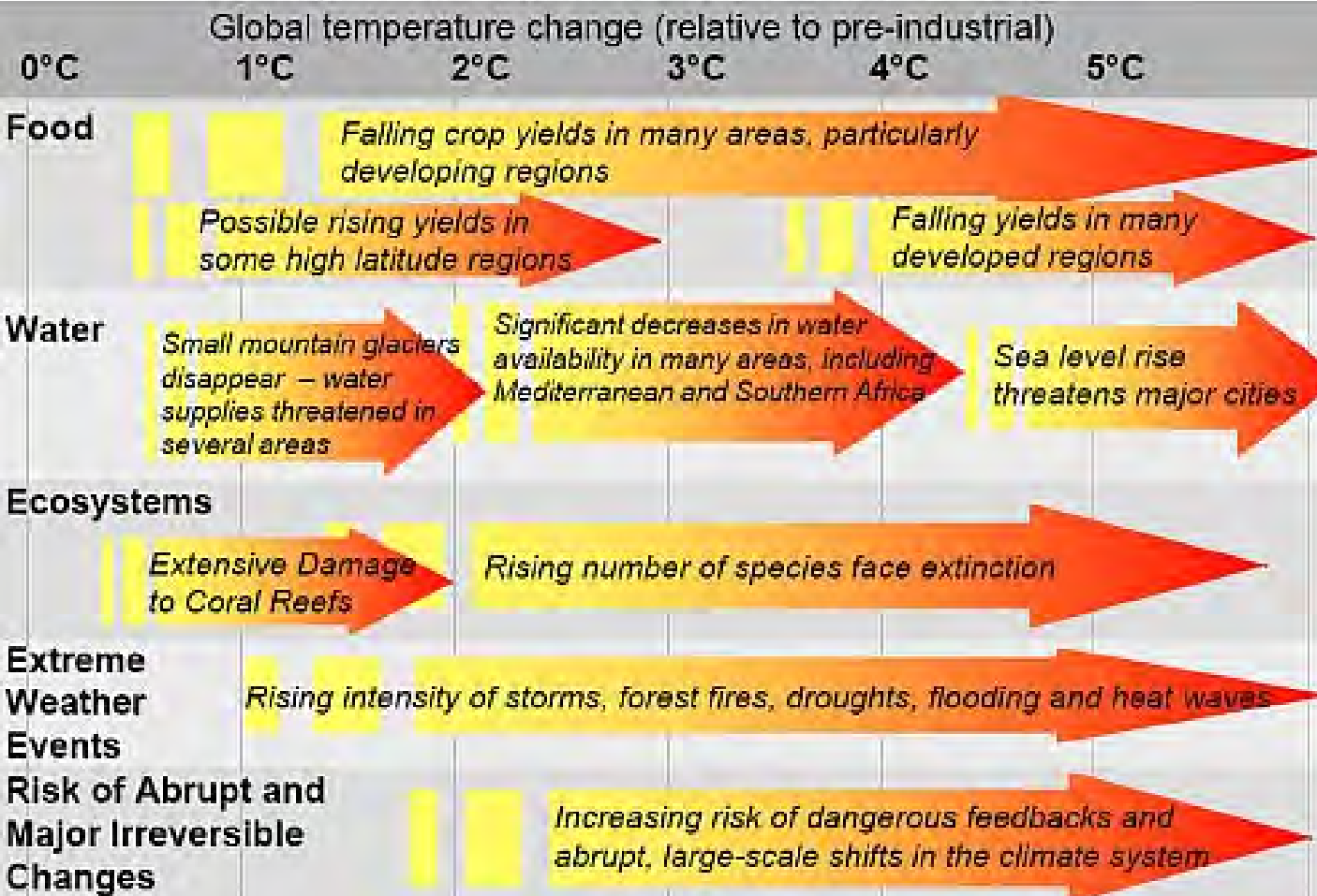
The business case

BHP
Billiton



The eco-system case

Projected Impacts of Climate Change



Stern 2007

The social case for SD

ADULT PLAYGROUND RULES



NO LAPTOP OR CELL PHONE
USE ALLOWED.



NO WORRYING ABOUT
DEADLINES.



NO BUSINESS SUITS ALLOWED.



NO BUSINESS MEETINGS.



TAKE BACK YOUR TIME

RECESS ISN'T ONLY FOR KIDS
WWW.TIMEDAY.ORG



MAKE POVERTY HISTORY

1. Trade justice
2. Drop the debt
3. More and better aid



www.makepovertyhistory.org



The challenges

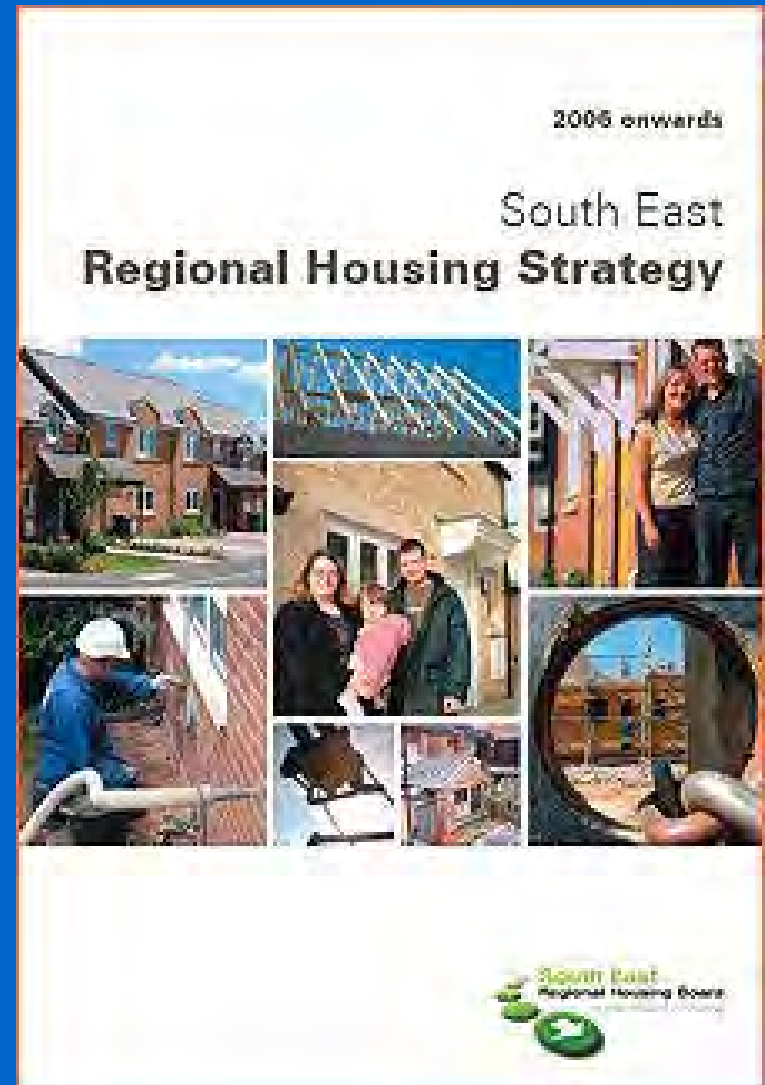


What are the main challenges
facing your business /
organisation?



Housing

- Increase new housing supply in England to 200,000 net additions per year, compared to around 150,000 now.
- Ensure the environmental sustainability of new housing.
- Implications for economy, society and environment?




Waste disposal

- The average household produces over a tonne of waste a year.
- Implications?



-
-
-

Production and consumption



I shop
therefore
I am

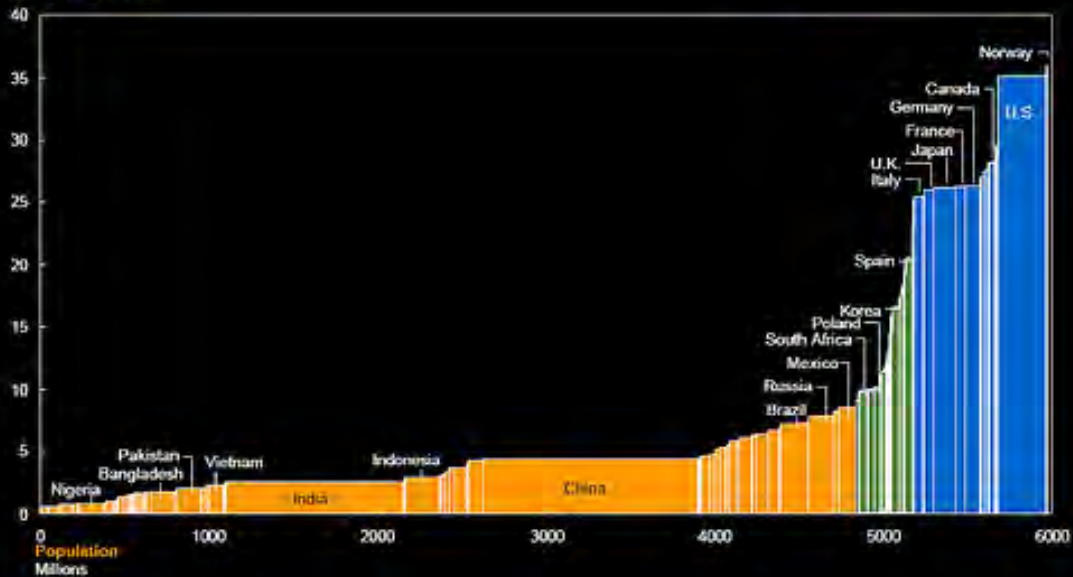
Inequality



WORLD DISTRIBUTION OF PER CAPITA GDP BY COUNTRY

U.S. Dollars, at PPP

GDP per capita, 2002
U.S. 2002 \$ thousands



Source: McKinsey & Co.

Trust

Which institutions do you trust?

Trust most/next most

Trust least/next least

BBC 49%

Government 65%

NHS 46%

Media in general 45%

Church of England 35%

Big British Companies 35%

Military 29%

NHS 16%

Media in general 14%

Military 16%

Government 10%

Church of England 15%

Big British Companies 8%

BBC 7%

Source: BBC MOR poll commissioned by the BBC, Jan 2011
Base: All respondents (1000)





Using the tools

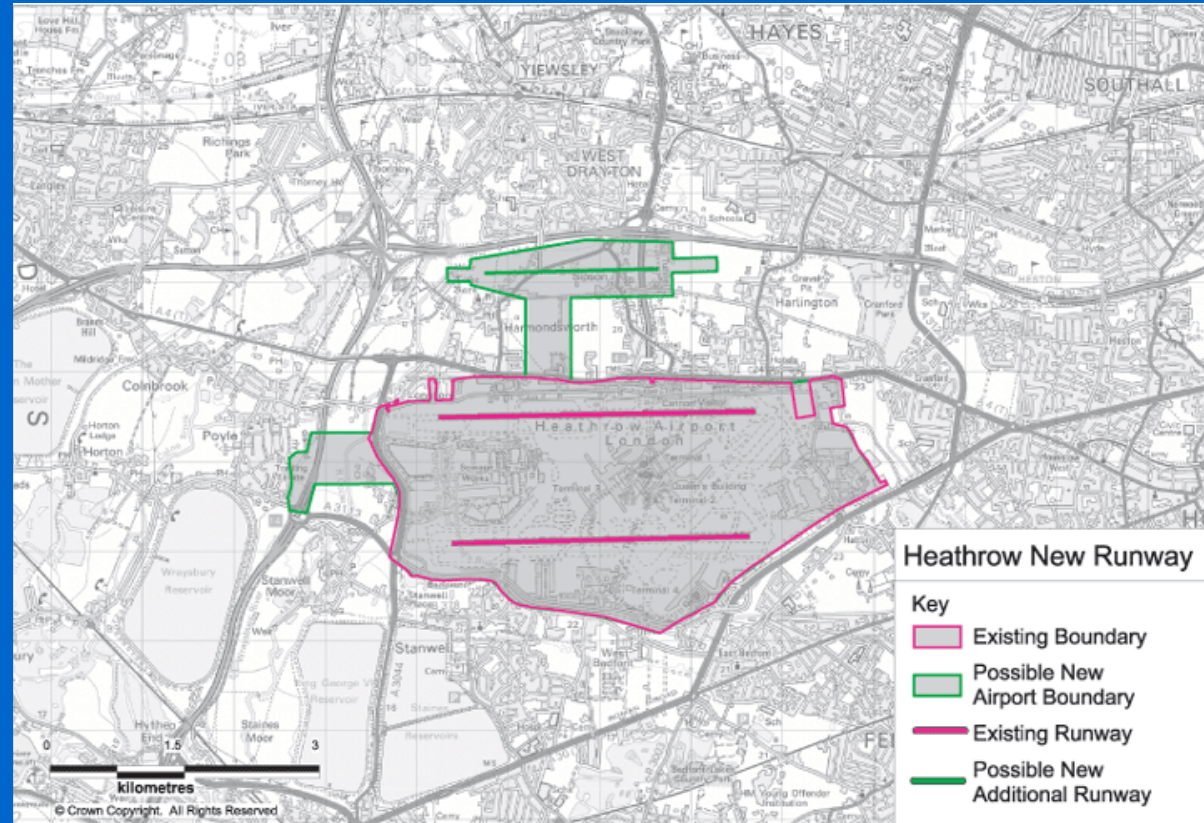
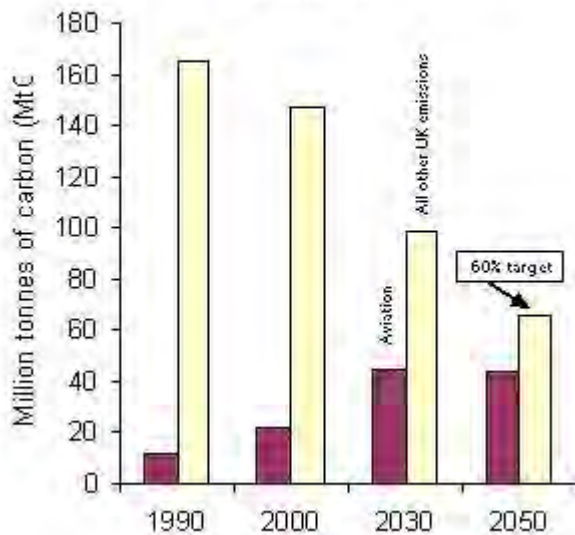


Joined-up thinking and planning



Joined-up thinking?

Carbon emissions: aviation versus domestic



"The government has to confront the contradictions in its policies," said Dr Brenda Boardman, from Oxford University's Environmental Change Institute.

-
-
-

What is a system?



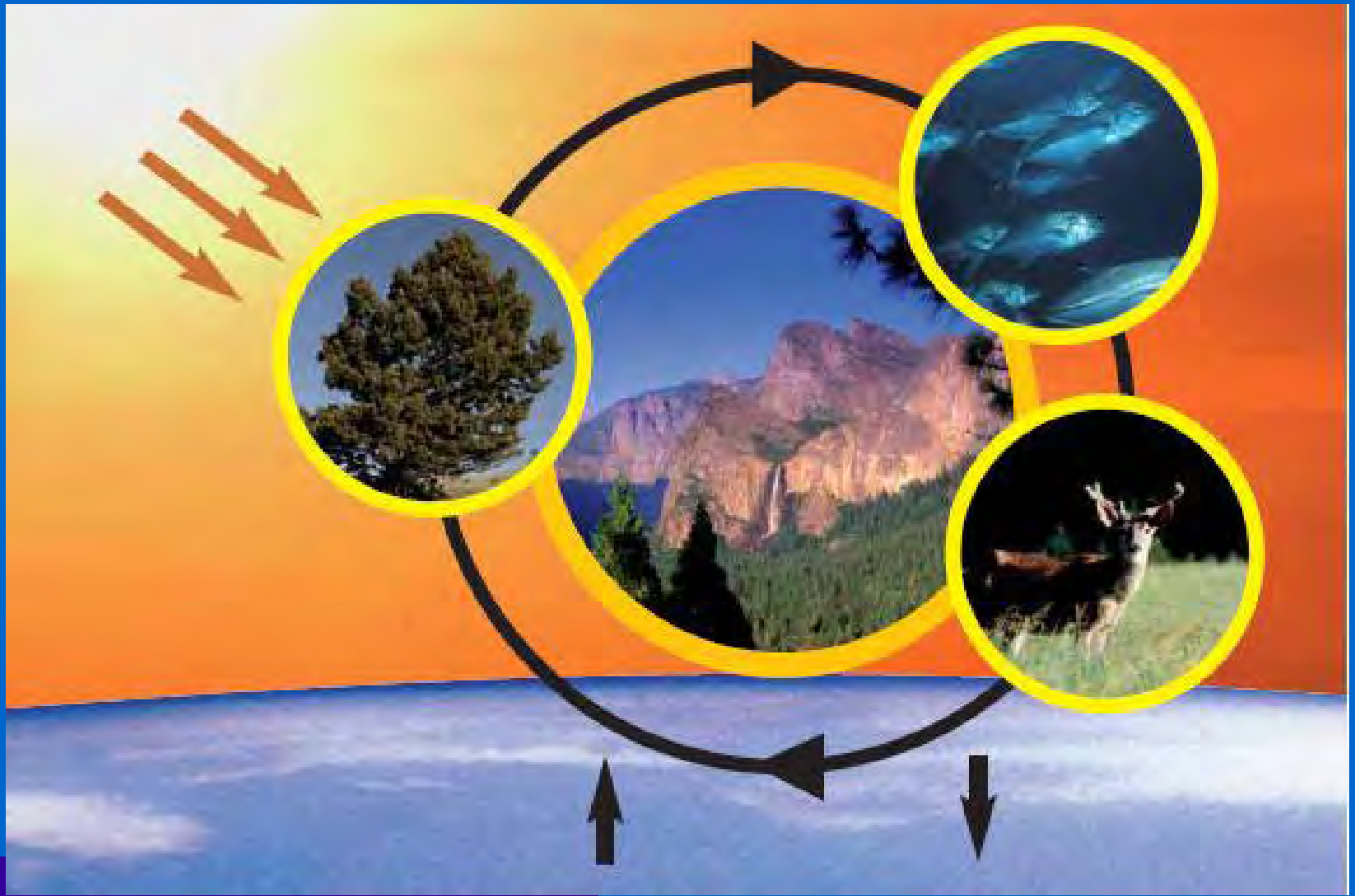


Joined-up practice

- Everything affects everything else
- There is no such thing as a free lunch



The natural cycle



Natural Step - system conditions

- In a sustainable society nature is not subject to systematically increasing
 - Concentrations of substances extracted from the Earth's crust.
 - Concentrations of substances produced by society.
 - Degradation by physical means,
AND in that society
 - Human needs are met world-wide.

Ecosystem services

- Goods eg water, food, resources
- Regulation eg air quality, water flow
- Cultural eg recreation, inspiration
- Support eg soil formation, nutrient cycling
 - from South Africa's National Water Act 2005

Undermining the system





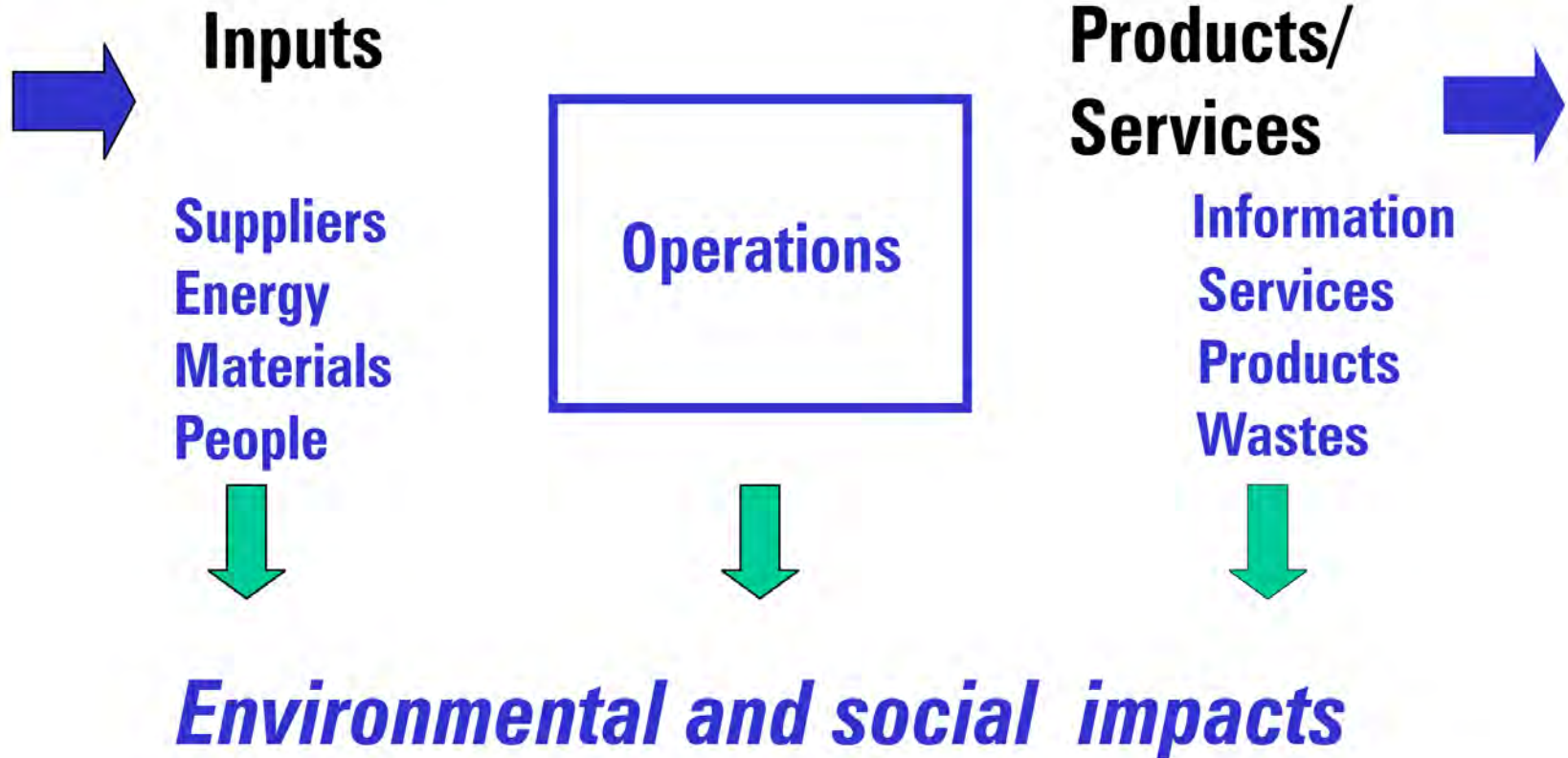
Applying joined-up thinking 1



Looking at the whole picture



Joined-up thinking





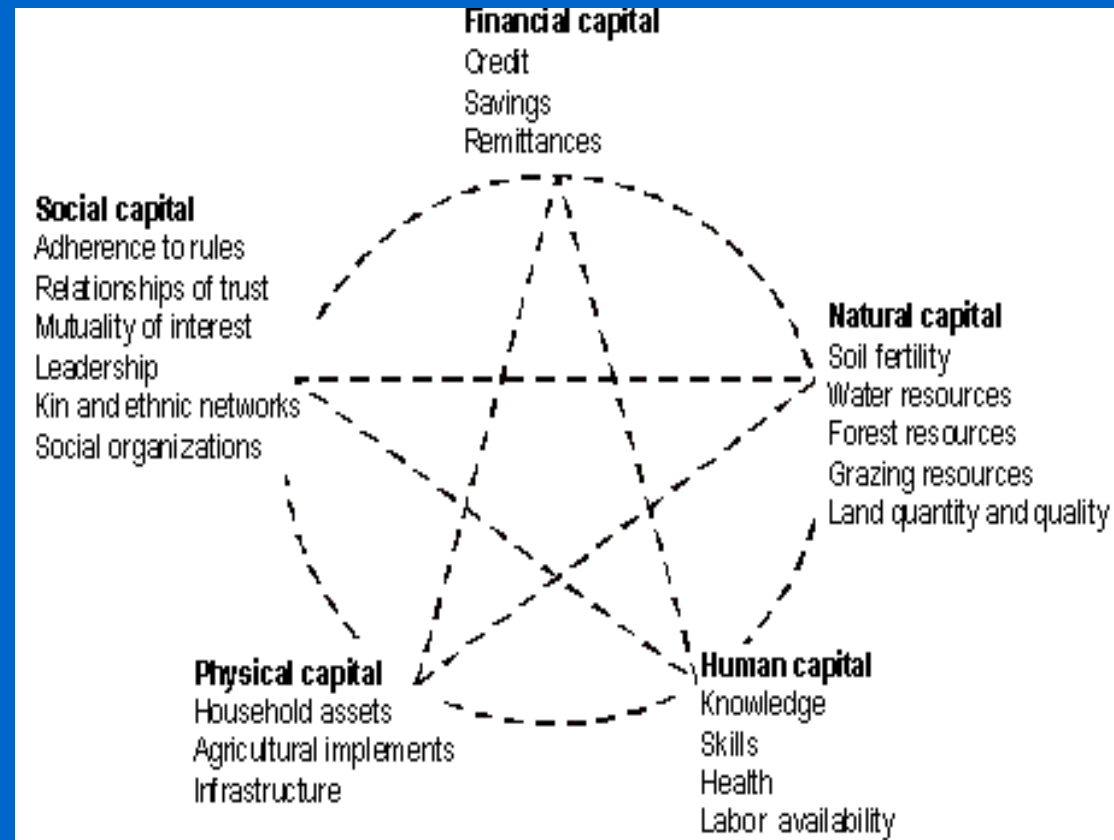
The Five Capitals



A means of analysing problems
and solutions

The Five Capitals

- Natural capital
- Social capital
- Human capital
- Manufactured capital
- Financial capital





Natural capital

- What does it mean?
 - the natural resources (energy and matter) and processes needed to produce products and deliver services
- Why is it important?
 - everything will draw on or impact on the natural environment in some way

Social capital

- What does it mean?
 - value added to a business or community from human relationships, partnerships and co-operation
- Why is it important?
 - societies and economies rely on social interactions to achieve their objectives



Human capital

- What does it mean?
 - the health, knowledge, skills, intellectual outputs, motivation and capacity for relationships
- Why is it important?
 - to be successful, all enterprises depend on individuals to be motivated and skilled

Manufactured capital

- What does it mean?
 - material goods and infrastructure that contribute to production or service provision (tools, technology)
- Why is it important?
 - it is the basis of further development and should be developed, delivered or used in a sustainable manner

Financial capital

- What does it mean?
 - the productive value of the other capitals that exist in a form of currency that can be owned or traded
- Why is it important?
 - it is the traditional and primary measure of economic performance

WOODLAND MANAGEMENT

Your wood



KEY



Hills



Viewpoint



Campsite



Woodland



Built-up area



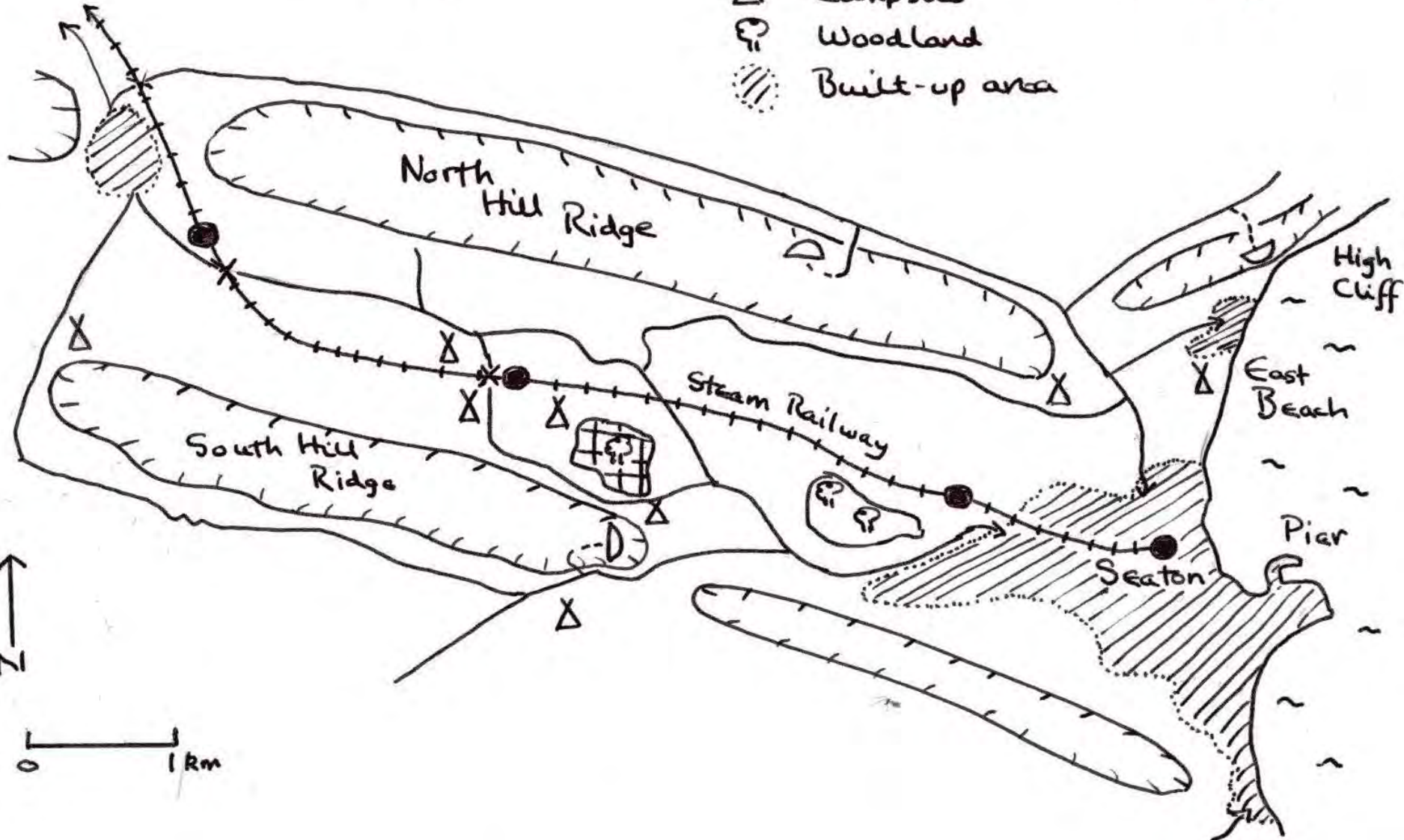
Railway



Road



Sea



Joined-up thinking

Woodland restoration

Consequences

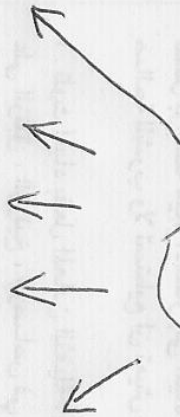
Employment

Biodiversity

Visitors

Vandalism

Traffic



Woodland

Activity

Clearance ← Equipment ←

Planting ← Seedlings ←

Construction ← Materials ← Timber

Aggregate

Inputs





Applying joined-up thinking 2



More practice



•
•
•

Applying joined-up thinking 2

- My professional activities and how they increase or decrease the Five Capitals.



Five years ahead



Where do we want to be?



The sustainability spectrum of businesses

Figure 19: The Sustainability Spectrum





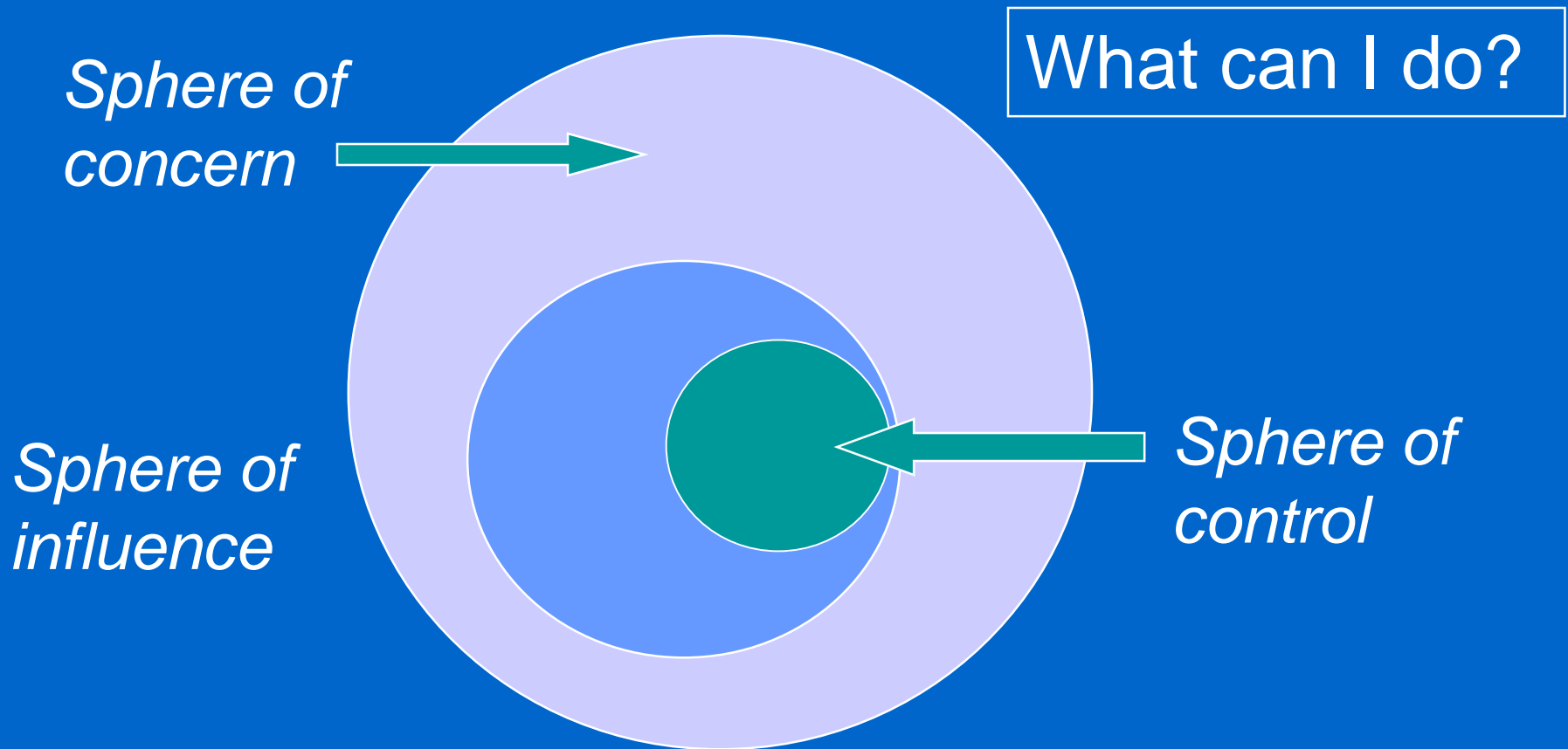
Action Planning



What I can and will do



Action Planning



Sources of information

- Government web site :
<http://www.sustainable-development.gov.uk/>
- Sustainable development commission:
<http://www.sd-commission.org.uk/index.php>
- Local government association:
<http://www.lga.gov.uk/home.asp>
- United Nations:
<http://www.un.org/esa/sustdev/>



Evaluation



How useful has it all been?





Purposes

- Improving awareness of the principles that underpin SD
- Identifying drivers for change
- Improving awareness of the benefits of SD
- Exploring ideas on to integrate SD principles into professional practice
- Applying systems thinking
- Developing personal action plans

